AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

1. (Currently amended) A computer system adapted to operate at least one first realtime program and at least one other program, said computer system comprising:

at least one realtime device control program;

a control system having a control processor, said control system being adapted for controlling the operation of at least one peripheral device;

a clock-controlled switching signal having a switching signal period and a switching signal pulse, and a realtime clock signal having a realtime clock period and a realtime clock pulse, said computer system cyclically switching between said programs within respective realtime clock periods in response to respective switching signal pulses;

a communications system having a realtime communications processor and a cyclic communications clock that is independent of the control system, said cyclic independent communications clock being adapted to produce a communications clock signal having a communications clock period and a communications clock pulse, said communications system being adapted to generate said realtime clock signal from said communications clock signal, said control system being connected with said peripheral device by said communications system so that said peripheral device is controlled in accordance with said communications clock; and

at least one acyclic task in said other program, said communications processor being adapted to carry out said acyclic task.

2. (Canceled)

3. (Currently amended) The computer system of claim [[2]] 1, wherein said acyclic task is a conversion of parametric data.

4. (Currently amended) The computer system of claim [[2]] 1, wherein said acyclic task is a conversion of diagnostic data.

5. (Original) The computer system of claim 1, wherein said control processor is adapted to operate said first realtime program for controlling the operation of at least one peripheral device.

6. (Original) The computer system of claim 5, wherein said control processor is adapted to operate the other program.

7. (Original) The computer system of claim 6, wherein said other program is a non-realtime program.

8. (Original) The computer system of claim 6, wherein said other program is a second realtime program.

9. (Original) The computer system of claim 1, and further comprising means for generating said clock-controlled switching signal using said communications clock so that said clock-controlled switching signal has a predetermined time relationship to said realtime clock signal.

10. (Currently amended) The computer system of claim 1, wherein said realtime clock signal is indirectly generated from said communications clock signal so that ~~at first~~ initially said realtime clock periods and said communications clock periods are equalized with respect to each other.

11. (Original) The computer system of claim 10, and further comprising a counter having a higher clock frequency than the communications clock frequency and having a counter state, said counter being adapted to be initialized by a reset during a first communications clock period; and a lower and an upper comparator threshold for beginning the next regular communications clock pulse at an appointed counter state, said counter being not resettable below said lower comparator threshold, said counter being adapted to be resettable by the next incoming communications clock pulse after said counter state has reached said lower comparator threshold and to be automatically reset if said counter state reaches said upper

comparator threshold, said counter being adapted to generate a realtime clock pulse upon being reset.

12. (Currently amended) The computer system of claim ~~9~~ 11, and further comprising an additional comparator threshold responsive to a counter state below said lower comparator threshold, said counter being adapted to generate a switching signal pulse within a realtime clock period when said counter state reaches said additional comparator threshold.

13. (Currently amended). An industrial machine having a computer system adapted to operate at least one first realtime program and at least one other program, said computer system comprising:

at least one realtime device control program;

a control system having a control processor, said control system being adapted for controlling the operation of at least one peripheral device;

a clock-controlled switching signal and a realtime clock signal, said computer system continually switching between said programs within said realtime clock period in response to said clock-controlled switching signal;

a communications system having a realtime communications processor and a cyclic communications clock that is independent of the control system, said cyclical communications clock being adapted to produce a communications clock signal, said control system being connected with said peripheral device by said communications system, said communications system being adapted to generate said realtime clock signal from said communications clock signal; and

at least one acyclic task in said other program, said communications processor being adapted to carry out said acyclic task.

14. (Original) The industrial machine of claim 13, wherein the machine is a machine tool and the peripheral device is a machine tool device.

15. (Currently amended) The industrial machine of claim 13, wherein the machine is a plastics processing machine and the peripheral device is a plastics processing machine ~~device~~.

16. (Original) The industrial machine of claim 13, wherein the machine is a robot and the peripheral device is a robot device.

17. (New) The computer system of claim 1, wherein said cyclic independent communications clock is in said realtime communications processor.